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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,132	09/19/2002	Charles B. Kendall	125194	9783

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SOUTHFIELD, MI 48034

EXAMINER

DUNN, DREW A

ART UNIT	PAPER NUMBER
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2882

DATE MAILED: 06/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/065,132

Applicant(s)

Kendall et al.

Examiner

Drew A. Dunn

Art Unit

2882



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 9-13, and 18-20 is/are rejected.
- 7) ☒ Claim(s) 5-8 and 14-17 is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 Sep 2002 is/are a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_



Paper No. 2

Application Number: 10/065,132

Filing Date: 09/19/2002

Applicant(s): Kendall et al.

## DETAILED ACTION

### *Drawings*

This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

The drawings are objected to because the box elements in Figure 1 (elements 32 and 36) need to be labeled in accordance with 37 C.F.R. § 1.83 (a) as stated infra. Correction is required.

Specifically, 37 C.F.R. § 1.83(a) states that in a nonprovisional application must show every feature of the invention specified in the claims. However, conventional features disclosed in the description and claims, where their detailed illustration is not essential for a proper understanding of the invention, should be illustrated in the drawing in the form of a graphical drawing symbol *or a labeled representation (e.g., a labeled rectangular box)* (emphasis added).

### *Claim Rejections - 35 U.S.C. § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless -

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 1, 10 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Takenaka et al. (hereinafter Takenaka), U.S. Pat. No. 6,487,273, filed Nov. 26, 2002.

Takenaka teaches an X-ray tube useful in medical devices wherein said X-ray tube includes the use of a variable speed fan 150 as an integral component of the air cooling of the X-ray tube. Further, thermal sensors 99 are strategically placed around the tube to monitor the temperature therein. Further, when the sensors detect an increase in temperature, the speed of the fan is increased to augment the amount of airflow through the tube assembly. Correspondingly, when cooler temperatures are sensed, the fan speed may be adjusted to reduce the airflow. (See col. 15, lines 1+). Though Takenaka is silent with regards to a temperature signal generated by the sensor and the fan responsive to the temperature signal, such a feature is inherent since the reference discloses the sensors placed around the tube and in response to a monitored temperature change, the fan either decreases or increases in speed which means that there is a communication between the sensors and the fan. Further, it is inherent that the fans would be controlled by some form of controller that also would have to be responsive to the temperature signal.

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***Claim Rejections - 35 U.S.C. § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2-4, 9, 11-13, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takenaka et al. (hereinafter Takenaka), U.S. Pat. No. 6,487,273, filed Nov. 26, 2002.

As stated supra, Takenaka teaches everything claimed in claims 1, 10 and 18.

With specific regards to claims 2 and 11, though Takenaka is silent as to the type of thermal sensors, thermistors are old and well known resistors made of semiconductors having resistance that varies rapidly and predictably with temperature. It therefore would have been obvious to one of ordinary skill to choose a thermistor for the thermal sensor of Takenaka for their speed and predictability.

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With regards to claim 3 and 12, though Takenaka is silent as to the coupling of temperature sensors, (i.e. which could be thermistors), Takenaka is concerned with maintaining a predetermined temperature level as evidenced by the description of the fan control stated supra. As such, it would have been obvious to one of ordinary skill to connect the temperature sensing means to a heat exchanger since this is one of the only practical ways to ensure that the temperature is properly maintained.

With regards to claims 4 and 13, absent any showing of criticality (as evidenced by Applicant's disclosure) the use of a shape resistor would have been obvious to one of ordinary skill as one way to control the temperature sensor/heat exchanger combination wherein the heat exchanging (or fan operation for adjusting temperature) is operated by a controlled current or voltage potential build-up and thereby employing the resistor as a switching means.

With regards to claims 19 and 20, Takenaka discloses the adjusting of the fan speed and as evidenced by the lack of criticality of these claim limitations, the choice of maintaining a predetermined fan speed or controlling the fan speed non-linearly would have been an obvious choice to one of ordinary skill.

***Allowable Subject Matter***

Claims 5-8 and 14-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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The following is a statement of reasons for the indication of allowable subject matter: though the prior art disclose the use varying fan speed in connection to a temperature sensor with in an X-ray tube to maintain a predetermined temperature, it fails to teach or fairly suggest that the temperature sensor comprises a thermistor in parallel with a shape resistor wherein said thermistor and shape resistor are in series with a gain resistor.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Drew A. Dunn** whose telephone number is (703) 305-0024. The examiner can normally be reached between the hours of 8:00 AM to 3:00 PM Monday thru Thursday and every other Friday (second Friday of the bi-week).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim, can be reached on (703) 305-3492. The fax phone number for this Group is (703) 308-7722 or (703)308-7724.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [**drew.dunn@uspto.gov**].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.



Drew A. Dunn  
Primary Examiner Art Unit 2882  
1 June 2003